

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/813908  
Source: FW  
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IFWO

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/813,908

DATE: 12/01/2004

TIME: 09:20:15

Input Set : N:\Crf3\RULE60\10813908.raw

Output Set: N:\CRF4\12012004\J813908.raw

1 <110> APPLICANT: Frey, Joachim Stuber  
 2 <120> TITLE OF INVENTION: Novel Type III Secretion Pathway in Aeromonas Salmonicida,  
 and Uses

3 <130> FILE REFERENCE: MIC01/2315/WO  
 4 <140> CURRENT APPLICATION NUMBER: US/10/813,908  
 5 <141> CURRENT FILING DATE: 2004-03-26  
 6 <150> PRIOR APPLICATION NUMBER: US/10/416,902  
 7 <151> PRIOR FILING DATE: 2003-05-15  
 8 <150> PRIOR APPLICATION NUMBER: PCT/CA01/01589  
 9 <151> PRIOR FILING DATE: 2001-11-15  
 10 <160> NUMBER OF SEQ ID NOS: 10  
 11 <170> SOFTWARE: PatentIn version 3.1  
 13 <210> SEQ ID NO: 1  
 14 <211> LENGTH: 47  
 15 <212> TYPE: PRT  
 16 <213> ORGANISM: Aeromonas  
 17 <400> SEQUENCE: 1  
 18 Glu Leu Lys Arg Leu Ile Arg Leu Leu Pro Val Glu Leu Phe Ser Glu  
 19 1 5 10 15  
 20 Glu Glu Gln Arg Gln Asn Leu Leu Gln Cys Cys Gln Gly Ala Leu Asp  
 21 20 25 30  
 22 Asn Ala Ile Glu Arg Glu Glu Asp Glu Leu Ser Gly Glu Ser Ser  
 23 35 40 45  
 25 <210> SEQ ID NO: 2  
 26 <211> LENGTH: 123  
 27 <212> TYPE: PRT  
 28 <213> ORGANISM: Aeromonas salmonicida  
 29 <400> SEQUENCE: 2  
 30 Met Asn Trp Ile Glu Pro Leu Leu Val Gln Phe Cys Gln Asp Leu Gly  
 31 1 5 10 15  
 32 Ile Thr Ile Gly Asp Asn Pro His Ser Leu Ile Gln Leu Glu Leu Glu  
 33 20 25 30  
 34 Gln Ser Gly Thr Leu Gln Leu Glu Arg His Gln Gly Gln Leu Thr Leu  
 35 35 40 45  
 36 Trp Leu Ala Arg Ala Val Pro Trp His Gln Ser Gly Glu Ala Ile Arg  
 37 50 55 60  
 38 Arg Ala Met Thr Leu Thr Ala Ala Ala Gln Gly Pro Ala Leu Pro Val  
 39 65 70 75 80  
 40 Arg Ser Gly Trp Leu Gly Glu Glu Gln Leu Ile Leu Phe Val Ser Leu  
 41 85 90 95  
 42 Asp Glu Arg Ala Val Thr Leu Pro Gln Leu His Gln Ala Val Thr Thr  
 43 100 105 110  
 44 Leu Thr Arg Leu Gln Arg Glu Val Leu Ala Ser  
 45 115 120

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47 <210> SEQ ID NO: 3
48 <211> LENGTH: 121
49 <212> TYPE: PRT
50 <213> ORGANISM: Aeromonas salmonicida
51 <400> SEQUENCE: 3
52   Met Ser Arg Ile Thr Ala Ala His Ile Gly Ile Glu Gln Leu Ser Ala
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54   Ile Ser Leu Asp Asp Gln Glu Arg Ser Leu Pro Gly Arg Tyr Ala Leu
55           20           25           30
56   Leu Pro Asp Gly Gln Ser Ile Glu Pro His Ile Ser Arg Leu Tyr Pro
57           35           40           45
58   Glu Arg Leu Ala Asp Arg Val Leu Leu Asp Phe Ala Thr Pro Asp Arg
59           50           55           60
60   Gly Phe His Asp Leu Leu Arg Pro Val Asp Phe Asn Gln Ala Met Gln
61   65           70           75           80
62   Gly Leu Arg Ser Val Leu Ala Glu Gly Gln Ser Pro Glu Leu Arg Ala
63           85           90           95
64   Ala Ala Ala Leu Leu Glu Gln Met His Ala Asp Glu Gln Leu Met Gln
65           100          105          110
66   Met Thr Leu His Leu Leu His Lys Val
67           115          120
69 <210> SEQ ID NO: 4
70 <211> LENGTH: 116
71 <212> TYPE: PRT
72 <213> ORGANISM: Aeromonas salmonicida
73 <400> SEQUENCE: 4
74   Met Thr Met Val Leu Thr Ser Gln Gln Gln Asp Ala Leu Leu Leu Thr
75   1           5           10           15
76   Gly Trp Leu Gln Leu Gln Tyr Gly His Pro Asp Lys Ala Ser Val Leu
77           20           25           30
78   Leu Ala Ala Leu Leu Gln Ile His Pro Asp His Gln Gly Gly Arg Arg
79           35           40           45
80   Thr Leu Leu Val Ala Leu Leu Lys Gln Gly Glu Gly Glu Ala Ala Leu
81           50           55           60
82   Ala His Val Asp Gln Leu Met Gln Gln Gly Glu Ala Asp Gly Pro Leu
83   65           70           75           80
84   Trp Leu Cys Arg Ser Arg Ala Cys Gln Leu Ala Gly Arg Leu Asp Glu
85           85           90           95
86   Ala Arg Phe Ala Tyr Gln Gln Tyr Leu Glu Leu Glu Glu Gln Asn Glu
87           100          105          110
88   Ser Thr His Pro
89           115
91 <210> SEQ ID NO: 5
92 <211> LENGTH: 705
93 <212> TYPE: PRT
94 <213> ORGANISM: Aeromonas salmonicida
95 <400> SEQUENCE: 5
96   Met Asn Gln Arg Thr Leu Glu Leu Leu Arg Arg Ile Gly Glu Arg Lys
97   1           5           10           15

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98   Asp Ile Met Leu Ala Ile Leu Leu Leu Ala Ile Val Phe Met Met Val
99           20                25                30
100  Leu Pro Leu Pro Pro Val Ala Leu Asp Ile Leu Ile Ala Ile Asn Met
101           35                40                45
102  Thr Ile Ser Val Val Leu Leu Met Met Ala Val Tyr Ile Asn Ser Pro
103           50                55                60
104  Leu Gln Phe Ser Ala Phe Pro Ala Val Leu Leu Ile Thr Thr Leu Phe
105           65                70                75                80
106  Arg Leu Ala Leu Ser Val Ser Thr Thr Arg Met Ile Leu Leu Gln Ala
107           85                90                95
108  Asp Ala Gly Gln Ile Val Tyr Thr Phe Gly Asn Phe Val Val Gly Gly
109           100               105               110
110  Asn Leu Val Val Gly Ile Val Ile Phe Leu Ile Ile Thr Ile Val Gln
111           115               120               125
112  Phe Leu Val Ile Thr Lys Gly Ser Glu Arg Val Ala Glu Val Ser Ala
113           130               135               140
114  Arg Phe Ser Leu Asp Ala Met Pro Gly Lys Gln Met Ser Ile Asp Gly
115           145               150               155               160
116  Asp Met Arg Ala Gly Val Ile Asp Val His Glu Ala Arg Asp Arg Arg
117           165               170               175
118  Gly Val Ile Glu Lys Glu Ser Gln Met Phe Gly Ser Met Asp Gly Ala
119           180               185               190
120  Met Lys Phe Val Lys Gly Asp Ala Ile Ala Gly Leu Ile Ile Ile Phe
121           195               200               205
122  Val Asn Ile Leu Gly Gly Val Thr Ile Gly Val Thr Gln Lys Gly Leu
123           210               215               220
124  Ser Ala Ala Asp Ala Leu Gln Leu Tyr Ser Ile Leu Thr Val Gly Asp
125           225               230               235               240
126  Gly Met Val Ser Gln Val Pro Ala Leu Leu Ile Ala Ile Thr Ala Gly
127           245               250               255
128  Ile Ile Val Thr Arg Val Ser Ser Glu Glu Ser Ser Asp Leu Gly Thr
129           260               265               270
130  Asp Ile Gly Ala Gln Val Val Ala Gln Pro Lys Ala Leu Leu Ile Gly
131           275               280               285
132  Gly Leu Leu Leu Val Leu Phe Gly Leu Ile Pro Gly Phe Pro Met Ile
133           290               295               300
134  Thr Phe Phe Ala Leu Ser Ala Ile Val Thr Ala Gly Gly Tyr Phe Ile
135           305               310               315               320
136  Gly Leu Arg Gln Arg Lys Ala Gln Ser Ser Asn Ser Gln Asp Leu Pro
137           325               330               335
138  Ala Val Leu Ala Gln Gly Ala Gly Ala Pro Ala Ala Arg Ser Lys Pro
139           340               345               350
140  Lys Pro Gly Ser Lys Pro Arg Gly Lys Leu Gly Glu Lys Glu Glu Phe
141           355               360               365
142  Ala Met Thr Val Pro Leu Leu Ile Asp Val Asp Ala Ala Leu Gln Ala
143           370               375               380
144  Glu Leu Glu Ala Ile Ala Leu Asn Asp Glu Leu Val Arg Val Arg Arg
145           385               390               395               400
146  Ala Leu Tyr Leu Asp Leu Gly Val Pro Phe Pro Gly Ile His Leu Arg

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Output Set: N:\CRF4\12012004\J813908.raw

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147          405          410          415
148 Phe Asn Glu Gly Met Gly Pro Gly Glu Tyr Leu Ile Gln Leu Gln Glu
149          420          425          430
150 Val Pro Val Ala Arg Gly Leu Leu Arg Pro Gly His Gln Leu Val Gln
151          435          440          445
152 Glu Ser Ala Ser Gln Leu Asp Leu Leu Gly Ile Pro Tyr Glu Glu Gly
153          450          455          460
154 Ala Pro Leu Leu Pro Gly Gln Pro Thr Leu Trp Val Ala Asn Glu His
155          465          470          475          480
156 Gln Glu Arg Leu Glu Lys Ser Arg Leu Ala Thr Leu Thr Thr Asp Gln
157          485          490          495
158 Val Met Thr Trp His Leu Ser His Val Leu Arg Glu Tyr Ala Glu Asp
159          500          505          510
160 Phe Ile Gly Ile Gln Glu Thr Arg Tyr Leu Leu Glu Gln Met Glu Gly
161          515          520          525
162 Ser Tyr Ser Glu Leu Val Lys Glu Ala Gln Arg Ile Ile Pro Leu Gln
163          530          535          540
164 Arg Met Thr Glu Ile Leu Gln Arg Leu Val Gly Glu Asp Ile Ser Ile
165          545          550          555          560
166 Arg Asn Met Arg Ala Ile Leu Glu Ala Met Val Glu Trp Gly Gln Lys
167          565          570          575
168 Glu Lys Asp Val Val Gln Leu Thr Glu Tyr Ile Arg Ser Ser Leu Lys
169          580          585          590
170 Arg Tyr Ile Cys Tyr Lys Tyr Ala Asn Gly Asn Asn Ile Leu Pro Ala
171          595          600          605
172 Tyr Leu Leu Asp Gln Gln Val Glu Glu Gln Leu Arg Gly Gly Ile Arg
173          610          615          620
174 Gln Thr Ser Ala Gly Ser Tyr Leu Ala Leu Asp Pro Thr Ile Thr Gln
175          625          630          635          640
176 Ser Phe Leu Asp Gln Val Arg His Thr Val Gly Asp Leu Ala Gln Met
177          645          650          655
178 Gln Asn Lys Pro Val Leu Ile Val Ser Met Asp Ile Arg Arg Tyr Val
179          660          665          670
180 Arg Lys Leu Ile Glu Gly Asp Tyr His Ala Leu Pro Val Leu Ser Tyr
181          675          680          685
182 Gln Glu Leu Thr Gln Gln Ile Asn Ile Gln Pro Leu Gly Arg Val Cys
183          690          695          700
184 Leu
185 705
187 <210> SEQ ID NO: 6
188 <211> LENGTH: 93
189 <212> TYPE: PRT
190 <213> ORGANISM: Aeromonas salmonicida
191 <400> SEQUENCE: 6
192 Met Leu Val Arg Arg Glu Gly Glu Arg Ala Gly Leu Ala Asn Pro Phe
193 1 5 10 15
194 Ala Ala Leu Tyr Leu Leu Ala Glu Ala Thr Leu Ala Val Leu Gly Pro
195 20 25 30
196 Gly His Phe Leu Tyr Gly Asn Val Asp Val Phe Arg Ser Ser Ser Leu

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197          35          40          45
198      Ser Ser Glu Arg Leu Gly Arg Phe Tyr Leu Arg Trp Thr Gly Ala Ser
199          50          55          60
200      Glu Pro Glu Pro Gly Trp Phe Met Leu Ala Thr Glu Gln Val Cys Ser
201      65          70          75          80
202      Leu Arg Asp Met Arg Lys Arg Gln Lys His Gly Leu Ala
203          85          90
205 <210> SEQ ID NO: 7
206 <211> LENGTH: 94
207 <212> TYPE: PRT
208 <213> ORGANISM: Aeromonas salmonicida
209 <400> SEQUENCE: 7
210      Met Lys Gln Pro Arg Phe Ala Asp His Ser Glu Thr Ile Ser Gln Ala
211      1          5          10          15
212      Glu His Gly Ile Ala Asp Ser Asp His Arg Asn Ala Leu Leu Gln Glu
213          20          25          30
214      Met Leu Ala Gly Leu Ala Leu Ser Asp Gln Thr Cys Gln Leu Leu Phe
215          35          40          45
216      Glu Ala Pro Thr Glu Gln Val Ala Val Ala Glu Gln Glu Leu Leu Ala
217          50          55          60
218      Glu Ile Gln Arg Arg Gln Ala Leu Leu Pro Ala Gln Pro Gly Glu Gly
219      65          70          75          80
220      Arg Lys Ser Arg Arg Pro Thr Ile Met Arg Gly Leu Met Ile
221          85          90
223 <210> SEQ ID NO: 8
224 <211> LENGTH: 361
225 <212> TYPE: PRT
226 <213> ORGANISM: Aeromonas salmonicida
227 <400> SEQUENCE: 8
228      Met Ser Thr Ile Pro Asp Tyr Asn Thr Asn Pro Gly Ala Phe Val Gly
229      1          5          10          15
230      Trp Leu Asp Val Gln Ala Leu Asn Thr Leu Pro Gly Asn Lys Asn Pro
231          20          25          30
232      Lys Leu Thr Glu Leu Val Glu Leu Leu Lys Gly Lys Ile Thr Ile Ser
233          35          40          45
234      Ala Asp Ser Ser Thr Ala Leu Ser Lys Glu Gln Leu Glu Lys Leu Leu
235          50          55          60
236      Ala Ala Tyr Leu Thr Asp Pro Ala Ser Ile Asn Gly Gly Trp Ala Met
237      65          70          75          80
238      Gly Gln Phe Lys Gly Gly Gln Asp Ala Ala Ile Ala Ala Ile Lys Gly
239          85          90          95
240      Val Ile Glu Arg Gly Ala Lys Gln Thr Pro Pro Val Thr His Trp Thr
241          100          105          110
242      Ile Pro Glu Phe Met Leu Leu Ser Leu Ser Ala Leu Thr Met Glu Arg
243          115          120          125
244      Thr Asp Asp Asp Leu Ile Thr Thr Phe Thr Gly Val Met Met Phe Gln
245          130          135          140
246      Asp Asn Gln Arg Lys Gly Leu Arg Asp Glu Leu Ala Glu Met Thr Ala
247      145          150          155          160

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RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 12/01/2004  
PATENT APPLICATION: US/10/813,908      TIME: 09:20:16

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VERIFICATION SUMMARY

DATE: 12/01/2004

PATENT APPLICATION: US/10/813,908

TIME: 09:20:16

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